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Peru

Biofuels Annual

Annual

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Report Highlights:
Ethanol production in CY 2012 is expected at 240 million liters. Currently there is one ethanol plant operating in Peru, with a capacity of 350,000 liters per day. A second plant is scheduled to begin operations at the end of CY 2011. Once the ethanol blending schedule reaches the whole country in CY 2012, consumption is estimated to reach 80 million cubic meters. Biodiesel production in CY 2011 is estimated to reach 32,000 MT. Biodiesel consumption in CY 2011 is estimated at 227,000 MT. U.S. biodiesel exports to Peru are assessed a countervailing duty of $178 per MT and an anti-dumping duty of $212 per MT.

Post:
Lima

Executive Summary:
Ethanol production in CY 2012 is expected at 240 million liters, increasing 78 percent compared to the previous year. A higher use of its install capacity by the sole producer of ethanol in Peru will drive this increase. There are two ethanol operations in Peru, both of them the northern region of Piura. Ethanol in Peru is produced out of sugar cane. Ethanol consumption in CY2012 is forecast at 80 million liters. There are other ethanol projects currently under study. Most of those projects involve sugar companies that are evaluating the economic feasibility of devoting some of its production to ethanol. However, there are no immediate plans to become operational.

Biodiesel production in CY 2011 is estimated to reach 32,000 MT. The largest Biodiesel producer in Peru is Palmas del Espino (PE). PE has an operation of 7,357 hectares of palm in the San Martin region. Another important producer is Heaven Petroleum. Together, Heaven Petroleum and PE account for 91 percent of biodiesel production in Peru. Biodiesel consumption in CY 2011 is estimated at 227,000 MT. U.S. biodiesel exports to Peru are assessed a countervailing duty of $178 per MT and an anti-dumping duty of $212 per MT.

Author Defined:

Policy and Programs:
There are three regulations that provide the legal framework to the development of biofuels in Peru:

- Law N° 28054 – Biofuels Maket Promotion: This law establishes the general framework to promote the use of biofuels based on free market policies and with the objectives of increasing employment, diversifying fuel sources, strengthening agricultural development, reducing environmental contamination, and providing an economic alternative to illegal drug production. An additional goal of this law is to increase investment related to the production and commercialization of biofuels. The Law also creates the PROBIOCOM program under PROINVERSION (Peru's agency for promoting investment) with the objective of attracting investment for the production and commercialization of biofuels.

- Law N° 28054 also calls for the creation of a Technical Committee to be responsible for determining the blending percentages and schedules, recommending regulations regarding biofuel production and commercialization, and leading a public awareness campaign regarding the benefits of biofuels. The Technical Committee includes the Ministries of Energy and Mining; Economy and Finance; Agriculture, PROINVERSION (investment), DEVIDA (GOP's alternative development agency), and the private sector.

- Supreme Decree N°013-2005 EM – Regulation of the Biofuels Market Promotion: This law

establishes percentages of biofuel contents in fuels. Gasoline must contain 7.8 percent of ethanol and diesel must have 5 percent of biodiesel. It also defines the terms mentioned in the law.

- Supreme Decree N° 021-2007 EM – Regulation of the Commercialization of Biofuels: This law, approved in April 2007, establishes the requirements for trading and distributing of biofuels in Peru. It also establishes the quality standards of biofuels and the procedures to register a fuel blend with the Ministry of Energy. It also sets a schedule for including biofuels in the fuel blend. Beginning in 2010, gasoline should include 7.8 percent of ethanol. In 2011 diesel must contain 5 percent biodiesel.

These regulations also establish responsibilities among different government agencies and departments:

- Ministry of Agriculture: Promotes the development of areas for biofuels production.
- Ministry of Energy and Mines: Authorizes the commercialization of biofuels and its blends with gasoline and diesel.
- Ministry of Production: Authorizes the operation of biofuels producing plants.
- OSINERGMIN: Supervises and controls the operation during the different stages of the production chain.
- PROINVERSION: Promotes investment in the biofuels sector

Bioethanol and Biodiesel:

Ethanol

Production

Ethanol production in CY 2012 is expected at 240 million liters, increasing 78 percent compared to the previous year. A higher use of its install capacity by the sole producer of ethanol in Peru will drive this increase. Ethanol production is a fairly new business in Peru, beginning in August 2009.

There are two ethanol operations in Peru, both are in the northern region of Piura. Ethanol in Peru is produced out of sugar cane. Peru's favorable weather conditions and rich soil enable year round harvest of sugar cane with very high yields, up to 200 metric tons (MT) of sugar cane per hectare (average yields are 160 MT per hectare). Other competitors, such as Brazil, can only harvest 180 days per year with yields of 70 MT of sugar cane per hectare.

With an investment of $210 million, Caña Brava (owned by the Romero Group) is currently the only ethanol producer in Peru. Caña Brava has established 6,000 hectares of sugar cane in Piura and built a processing plant with a capacity of 350,000 liters per day. Caña Brava began operations in August 2009.

Maple, through its subsidiary Maple Ethanol and Maple Biocombustibles, is also an important

player in Peru's ethanol business. With an investment of $254 million, Maple has acquired 13,500 hectares in Piura, 7,800 of which it plans to use for ethanol production from sugar cane. This project includes an industrial plant with a capacity of 130 million liters per year. Maple's project, currently under construction, is scheduled to begin operations at the end of 2011.

There are other ethanol projects currently under study. Most of those projects involve sugar companies that are evaluating the economic feasibility of devoting some of its production to ethanol. However, there are no immediate plans for them to become operational.

Ethanol in Peru is produced using the diffusion method which is broadly used in Brazil. This method consists of shredding the cane very thinly then moving it through thirteen consecutive showers of warm water (between 70 and 80°C). The water that comes out of the last wash then is fermented. Once the alcoholic yeast is finished with the fermentation process, the liquor is distilled. This process is more efficient than traditional milling and it employs a continuous flow which reduces idle time to a minimum.

A 350,000-liter-per-day ethanol plant must have 20 hectares of sugar cane production per day to sustain its operation. With an average sugar content of 17 percent, 1 MT of sugar cane produces 170 kilograms of sugar which produces 0.11 cubic meters of ethanol. At the same time, 1 MT of sugar cane produces 330 kilograms of bagasse that produces 660 kilograms of steam. This steam is used to generate electricity through a turbine. Electric generation is an important component on ethanol projects. Not enough energy generated to satisfy the needs of the plant, but excess energy is sold to the national power grid. Ethanol operations in Peru require about 8 Megawatts of power per month and generate between 10 and 12 Megawatts of power per month.

As a result of the growing ethanol industry, the GOP expects an increase of 45,000 hectare in arable land (potential is 200,000 hectares), increased investments to total between $500 million and $2 billion, and increases in exports and employment by $900,000 and 40,000 people, respectively.

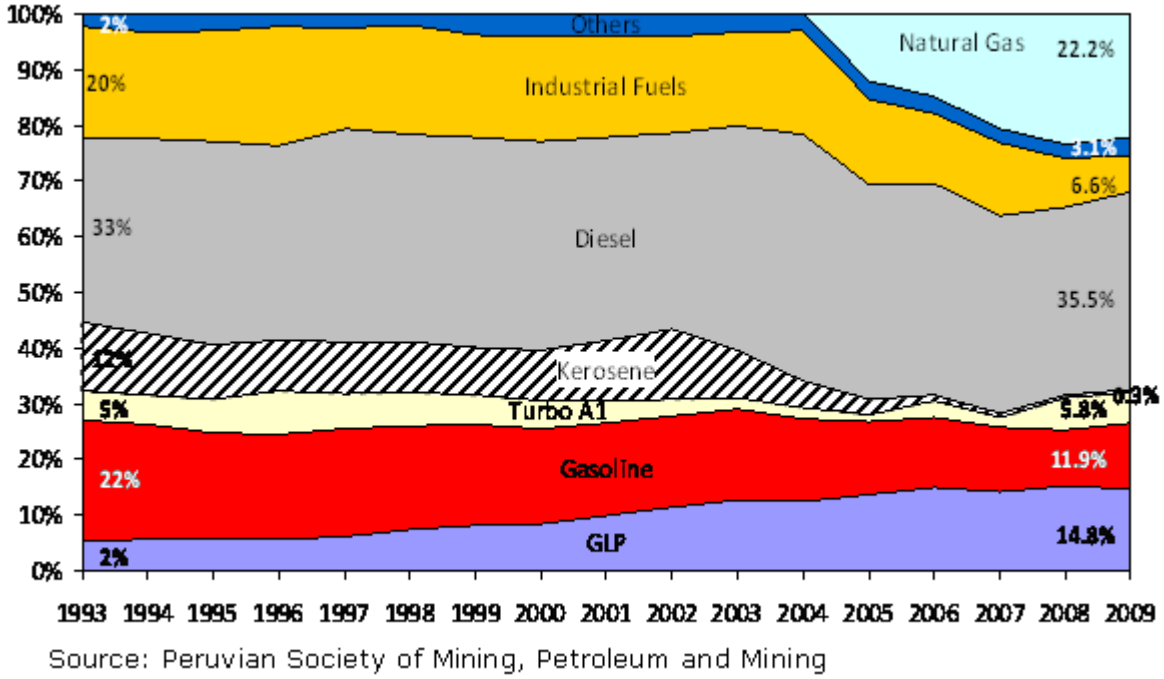
Consumption

Ethanol consumption is estimated at 60 million liters in CY 2011. However, once the ethanol blending schedule reaches its maximum, the total ethanol consumption is expected to reach 80 million liters. An important milestone will occur this year when Lima is scheduled to implement the blend. Lima accounts for 65 percent of the ethanol demand in Peru. There are two companies in Peru that supply gasoline for the Peruvian market – Repsol and the state-owned Petroperu.

Ethanol producers are requesting that the government reduce the Selective Tax (ISC) applied to ethanol from $0.5 to $0.42 per gallon. Producers believe that this incentive would encourage the use of this cleaner fuel.

Gasoline demand has suffered a significant contraction in Peru due to the increasing demand for natural gas (GNV) and liquefied petroleum gas (GLP). The demand for alternative fuels will also limit local demand for ethanol. In CY 2009, the demand for GLP and GNV accounted for almost 37 percent of total fuel demand.

Peruvian Fuel Demand



Source: Peruvian Society of Mining, Petroleum and Mining

Trade

Peruvian ethanol exports are forecast at 155 million liters in CY 2012. This sharp increase is the result of the second ethanol plant becoming operational at the end of CY 2011. The Netherlands was the main destination of Peruvian ethanol in CY 2010 accounting for 46 percent of total ethanol exports.

Conventional & Advanced Bioethanol (million liters)						
CY	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Production	N.A.	N.A.	69	96	135	240
Imports	N.A.	N.A.	0	0	0	0
Exports	N.A.	N.A.	58	63	70	155
Consumption	N.A.	N.A.	10	30	60	80
Ending Stocks	N.A.	N.A.	1	3	5	5

No. of Biorefineries	N.A.	N.A.	1	1	2	2
Capacity	N.A.	N.A.	126	126	256	300
No. of Biorefineries	N.A.	N.A.	N.A.	N.A.	N.A.	N.A
Capacity	N.A.	N.A.	N.A.	N.A.	N.A.	N.A
Product Y	N.A.	N.A.	N.A.	N.A.	N.A.	N.A
Product Z	N.A.	N.A.	N.A.	N.A.	N.A.	N.A
Sugarcane	N.A.	N.A.	410	960	1000	2200
Feedstock B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A
Feedstock C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A
Feedstock D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A

Biodiesel

Production

Biodiesel production in CY 2011 is estimated to reach 32,000 MT. The largest Biodiesel producer in Peru is Palmas del Espino (PE). PE has a plant to process 7,357 hectares of palm in the San Martin region. PE is also establishing a new site with just under 10,000 hectares in the same region to add to its palm production. Another important producer is Heaven Petroleum. Together, Heaven Petroleum and PE account for 91 percent of biodiesel production in Peru.

There is project to produce biodiesel out of jatropha in the southern coastal region of Ica. This project involves 50,000 hectares of which the first tranche will have 14,000 hectares. This very large project is in the early stages of implementation; the company has just acquired land rights and is in the process of securing the water supply.

Conventional & Advanced Biodiesel (thousand MT)

CY	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Production	10	10	10	32	32	50
Imports	12	20	92	103	167	102
Exports	0	0	0	0	0	0
Consumption	21	30	102	133	227	230
Ending Stocks	1	1	1	2	2	2
Production Capacity (Conventional Fuel)						
No. of Biorefineries	1	1	1	2	2	2
Capacity	25	25	25	200	200	200

Production Capacity (Advanced Fuel)						
No. of Biorefineries	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Capacity	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Feedstock Use (1,000 MT)						
Vegetable oil	10	10	10	31	61	80
Feedstock B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Feedstock C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Feedstock D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Consumption

Biodiesel consumption in CY 2011 is estimated at 227,000 MT. Diesel continues to be the most consumed fuel in Peru; consumption reached 4.23 million MT in CY 2010 and is forecast at 4.32 million MT in CY 2011. Under the biofuels law, as of CY2011 diesel must include 5 percent of biodiesel. This triggered a sharp increase in demand as the blend only had 2 percent of biodiesel prior to the mandate.

Trade

Biodiesel imports in CY 2010 were 103,000 MT. Biodiesel imports grew considerably since the biofuels law entered into force in CY 2009. Biodiesel imports in CY 2011 are estimated at 167,000 MT, of which about a half will come from Argentina. U.S. exports in CY 2009 increased almost 700 percent, reaching 71,742 MT, which account for 78 percent of Peru's biofuels imports. However, in CY2010, U.S. exports were reduced significantly due to anti-dumping and countervailing duties imposed by the GOP.

On August 23, 2010, INDECOI, the Peruvian consumer defense institute, published on Resolution N° 151-2010-CFD-INDECOPI which imposes a permanent CVD of $178 per MT to pure biodiesel (B100) or any blends greater than B50 imported from the United States. This adds to the $212 per MT anti-dumping duty.